

the journal of
college radio

September, 1979

Vol. 17, No. 1

WAKE FOREST
UNIVERSITY

SEP 25 '79

LIBRARY

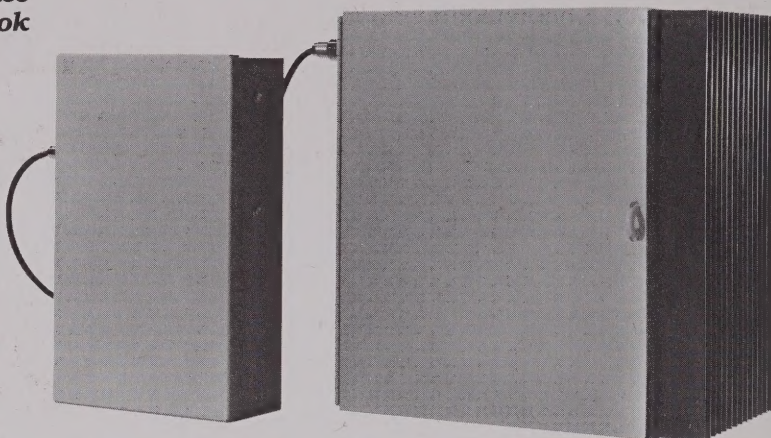


WELCOME BACK

The LPB 2-20 System...

*the latest generation of excellence
from the company that wrote the book
on carrier current transmitters!*

In less than two years, the LPB 2-20 System has brought superb sound and trouble-free operation to over 500 campus stations. The 2-20 System carries on a proud tradition of design and construction excellence **that has put over 8,000 LPB transmitters in service over the past two decades.** As with all LPB equipment, the 2-20 System is supported by a company you know will be there when you need them.



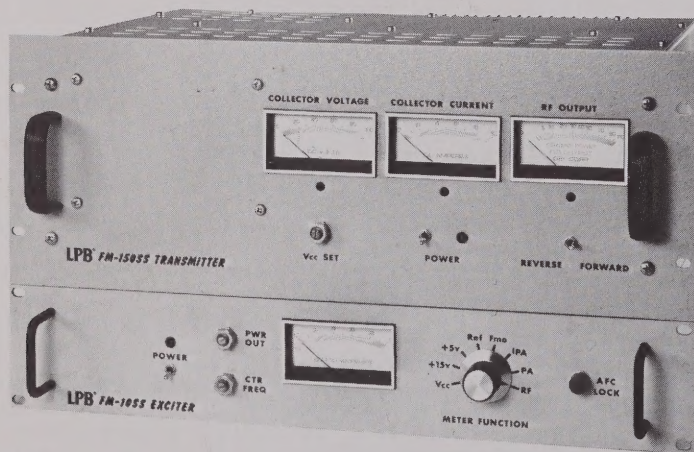
Because at LPB, we're committed to the college broadcaster.

20 years of service to college radio

LPB[®]

LPB Inc.

28 Bacton Hill Road, Frazer, PA 19355 (215) 644-1123



FCC Docket 20735...

Are you prepared to go Class A?

With LPB's F.C.C. type accepted FM-150SS 150 Watt FM transmitter you can be. NOW! It's the **only transmitter designed specifically** for the 100 Watt ERP Class A Educational Broadcaster.

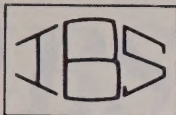
Don't take chances with your frequency...your schedule...your station. Call LPB or your consultant now. Ask about the matching FM-10SS Exciter while you're at it.

20 years of service to college radio

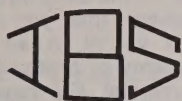
LPB[®]

LPB Inc.

28 Bacton Hill Road, Frazer, PA 19355 (215) 644-1123



the journal of
college radio



September, 1979
Vol. 17, No. 1

Editor
JEFF TELLIS

Published by the
Intercollegiate Broadcasting
System, Inc.

Board of Directors

DR. GEORGE ABRAHAM
KAREN B. ANDERSON
RICK ASKOFF
DAVID W. BORST
PAUL BROWN
JIM CAMERON
ROD COLLINS
DICK GELGAUDA
DON GRANT
FRITZ KASS, JR.
NORM PRUSSLIN
STUART SHORENSTEIN
SHELDON STEINBACH

Sales Office
Journal of College Radio
Box 592
Vails Gate, N.Y.
12584

IBS, Inc.
President
JEFF TELLIS

in this issue:

From the Editor	2
IBS Summary Report: Docket 20735 and 10 Watt FM Stations: Frequency changes and power increases	3
IBS Summary Report: FCC Minimum Operating Schedule	8
Alternatives to a Table of Assignments for the Noncommercial FM Band <i>by Jeffrey S. Close</i>	12
So You Want to Increase Your Power <i>by Jerry C. Hudson</i>	16

The JOURNAL OF COLLEGE RADIO is published 5 times per year [February, March, April, October, November] by the Intercollegiate Broadcasting System, Inc. [a non-profit organization]. Editorial, publishing and sales offices are located at 339 Windsor Highway, Newburgh, N.Y. 12550. Address all correspondence to The JOURNAL OF COLLEGE RADIO, Box 592, Vails Gate, N.Y. 12584.

The JOURNAL OF COLLEGE RADIO was founded in 1941 by the Intercollegiate Broadcasting System, Inc., using the title IBS Bulletin. The name was changed in 1955 to IBS Newsletter. In 1964 it became College Radio and in 1969, The Journal of College Radio.

Annual subscription price is \$7.50. Single copy price available on request. Outside the U.S.A. add \$1.00 per year for postage.

Send subscription order and changes of address to Circulation, The Journal of College Radio, Box 592, Vails Gate, N.Y. 12584. On changes please include both old and new address plus address label from back of Journal if possible.

from the editor

The months between now and the end of December will likely be among the most crucial for school and college stations presently operating with 10-watt FM facilities.

For those who haven't yet made the decision, that's the amount of time left to decide whether or not you want to remain a 10-watt station and face a probable change in your place on the FM dial, or increase your power to a minimum of 100-watts ERP or more at your present frequency or another within the noncommercial FM band. Not only must this decision be made, but should you decide upon a power increase, you'll have to get your FCC form 340 application filed by 1/1/80. That may take a good deal of work in gathering technical data, ascertainment of community needs, and of course, at least some idea of how you're going to pay for it all.

Should you decide to remain a 10-watt station, you have a little more breathing room, but not much. Your deadline for choosing one of the alternatives open to you (in order) is not later than with your station's first license renewal in 1980 or thereafter. Our summary report in this issue details those alternatives in order.

In either instance, waiting until the last minute may not be best. Without encouraging a stampede to the Post Office, the earlier you make your decision and file your application, the more flexible your options may be. As more time goes by, more stations will have filed for power increases, and more new stations will have filed for construction permits, with the net result less room on the dial, and less flexibility in your choices.

Too many stations have just been letting things slide. Now, the crunch is on as students return to campus and realize they have just a few short months to accomplish what should have been started much earlier this year.

At the IBS offices, we've received a lot of calls from 10-watt stations asking what they should do: stay at 10-watts or increase power. We've also been asked what other 10-watt stations are deciding to do.

Each individual station faces its own unique local situation and must make its own choice on that basis. Where both spectrum space (room on the dial) and funding sources exist, stations seem to be leaning toward the power increase. In fact, some are taking the opportunity to increase power to much higher levels than the minimum 100-watts ERP. Where there's no dial space available to accommodate a power increase, and/or there's just no conceivable way you can come up with financing, the basic choice is made for you. All that remains are the 10-watt

alternatives in order.

Aside from dial space and funding, the other major perceived obstacle seems to be Ascertainment of Community Needs. It seems to us, where the dial space and funding are available, ascertainment alone should not necessarily stand in your way. Though the process seems burdensome and complicated if you've never been through it, experience has shown that an ascertainment survey is within the capabilities of most student-staffed stations with some organization.

Your school or college administration and student government (along with your station's own staff) must recognize that as a licensed broadcast station, your first obligation is to serve in the public interest, convenience and necessity. The ascertainment process attempts to insure that you make efforts to determine the problems, needs and interests of your local community, and attempt to serve at least some of these in your programming.

These community service obligations increase as your power increases from 10-watts to 100-watts or more and the size of the community you serve increases accordingly. That's one of the reasons 10-watt stations are exempt from formal ascertainment requirements faced by larger stations. Even as a 10-watt station, however, your first obligation is to serve your community, in which your campus may be but one of the elements.

This is a sometimes difficult realization for a college faculty who thought the station was primarily for training, or a college administration who thought it was primarily as a public relations tool for the campus, or for a student government who thought it was for the entertainment of students. Some or all of these things can be accommodated as part of the station's objectives. But, they must be subordinate to your first obligation, that of serving the community.

Aside from the power increase filing deadline for 10-watt stations, January 1, 1980 also marks the start of share-time vulnerability for any noncommercial station not operating at least 12 hours/day, every day of the year. Actually, the vulnerability begins with your station's first license renewal in 1980 or thereafter, since the FCC will consider share-time applications only at the time of your license renewal. However, if you feel that such a share-time application might be likely to be filed against your station, you should try to establish a track record of operating hours meeting the required level at the earliest possible date. Waiting until your license renewal may be too late.

Of course, not every station will face a

share-time application. As with other decisions, it depends on the local situation. If the FM dial is so crowded in your area that the only way for a new station to get on the air is through a share-time arrangement, then you may be more vulnerable. If you're in an area where there's still plenty of room, especially on the noncommercial FM band (88.1-91.9 MHz), there's probably little chance of a share-time application.

Remember, this 12 hours/day, every-day-of-the-year level is only to avoid share-time vulnerability. The minimum level to retain your license is still set at a weekly total of 36 hours, with at least 5 hours/day Monday-Friday except for official vacations and recess periods, at stations licensed to educational institutions.

In this month's JCR, we've tried to summarize the kinds of information you'll need to deal with the decisions you must make very soon, if you have not already made them. You'll find a summary report on the 10-watt frequency changes and power increases, and another on the minimum operating requirements.

Those of you who read and remember your IBS mail may find much of this material familiar. But, there have been a few recent changes and updates. For example, the commercial FM band alternative for 10 watt stations has recently been opened within 250 miles of Canada. And, of course, you'll have a whole new crop of people at your station, both new recruits and new department heads, who may not have seen this material when it was originally sent.

Though we strongly disagree with many of the new rules, particularly those affecting 10-watt stations, the massive shake-up they've caused has made stations take a long, hard look at themselves. . . some for the first time since they went on the air. That's a healthy step, often raising some serious discussion. When dial space was plentiful and the FCC's policy towards college radio was one of benign neglect, perhaps that self-examination was less crucial. Now, we can no longer afford to ignore our shortcomings, sit back and play records, and live within our own little wombs.

While the coin-free juke box approach still exists at a very few stations, increasingly, college radio has recognized its community service obligations and has faced them with creative programming not provided elsewhere on the dial by either commercial stations or "public" broadcasters. It is in this development and maturity that the future of our stations will be shaped.

JT

IBS summary report

docket 20735 and 10-watt FM stations: frequency changes and power increases

Editor's Note: Though Docket 20735 was adopted in large part in June, 1978, much confusion seems to remain among those at 10-watt stations, with some engineering consultants, and even at the FCC itself. Because of widespread interest and upcoming deadlines, IBS has collected the more important elements of the situation as discussed in previous mailings, added updated information, and summarized the situation in informal, understandable English that can be understood even by non-technical people who have to deal with these problems. With the turnover in college radio station personnel each Summer, it is important for those who did not get to see our previous material to review this summary report in detail.

DOCKET 20735

The Federal Communications Commission's Docket 20735 is an overall proposal under which various rules changes are being brought about for all noncommercial educational FM broadcast stations, regardless of power, but with a particular importance for the low-powered 10-watt FM stations found on many college campuses.

BACKGROUND

Ten-Watt stations operate at the lowest power levels permitted any FCC-licensed FM broadcast station. Their coverage is usually limited to the immediately surrounding areas, with a radius,

depending on terrain factors and height of the antenna, of generally from 3 to 5 miles or more. This class of station was created by the FCC to allow start-up on a basic level, with relatively small capital outlay, and yet with the ability to provide an often important local service.

Traditionally, these stations started out with the primary purpose of training students for careers in professional broadcasting. However, as programming improved and developed, and space on the FM dial became more scarce, the purposes shifted from training to service. The main objective now, as with any other station, is to serve the needs of the local community.

As the FM dial became more crowded with

Consider Small Market Radio.

Small market radio stations are usually the last place a new broadcaster looks for that first job - but should be the first!

No where else is there a better opportunity for a variety of experience and potential for growth.

Here's a chance to discover exactly which area of broadcasting you should pursue.

We specialize in servicing the needs of small market radio stations. We supply 75 lines of broadcast equipment to more than 1000 small market radio stations. These stations belong to our Loyalty Discount Plan. Our business is savings and satisfaction. We save our clients an average of \$800 annually over their previous sources of supply. We solve their management problems, too! That's where you come in. We want to help our clients find employees who are "NOTHING BUT THE BEST." Broadcast Consultants Corporation in conjunction with AERho has developed The National Placement Service. Using our computer, we can match job hunters with job openings held by our clients and other radio stations.

If you're interested in participating in this project, write us for a no-obligation questionnaire.

davidgreen
P.O. Box 590/Leesburg, Virginia 22075, Phone 703-777-8660
broadcast consultants corporation

stations, less and less room was available for new stations. The FCC decided that 10-watt stations were taking up space which could otherwise be used for higher-powered stations serving larger areas and that 10-watt operations were, in technical terms, "inefficient."

Docket 20735 is an effort to create more room on the noncommercial FM band for new high-powered stations and for existing stations that want to expand. The changes adopted to date under this docket have mandated important decisions for all 10-watt stations.

In the **First Report and Order**, adopted June 7, 1978, the FCC instituted a "freeze," announcing it would no longer accept applications for new 10-watt stations. The period of the freeze was left indefinite. For existing 10-watt stations, two major options were given: 1) remain a 10-watt station, or 2) apply for an increase in power to at least 100-watts effective radiated power (ERP).

REMAINING AT 10-WATTS

Those choosing to remain a 10-watt FM station have several alternatives which must be pursued in order no later than their first license renewal in 1980 or thereafter:

1. **Change the frequency of the station, shifting to a spot on the commercial portion of the FM band (92.1 - 107.9 MHz).**

NOTE: If your station is located within 199 miles of the U.S./Mexico border, alternative #1 is not currently available because of international treaty agreements. A similar restriction was originally in effect for stations within 250 miles of the U.S./Canada border, but as of July 25, 1979, this restriction was eliminated through U.S./Canadian agreement.

2. **Change the frequency of the station, shifting to the new channel 200 [87.9 MHz], which is available for use only in very limited areas of the country.**

3. **Change the frequency of the station, shifting to another frequency in the noncommercial portion of the FM band [88.1 - 91.9 MHz] that is less preclusionary than your present one, that is, less likely to block establishment of new higher-powered stations.**

NOTE: If your station is located within 199 miles of the U.S./Mexico border, there is a Table of Assignments in effect for the noncommercial FM band. This means you can shift to another frequency only if it is assigned to your area and designated for the class of station you propose to operate. Otherwise, you would first have to seek a rulemaking to have that new channel assigned to your area.

4. **Remain as a 10-watt station on your present frequency by showing the FCC that you are already on the least**

preclusionary channel in your area.

These alternatives must be exhausted in the order shown. To remain a 10-watt station, you would first have to seek a frequency change to the commercial FM band, unless precluded by the border restrictions noted. If you are precluded by the border restrictions, or there is simply no open space on the commercial FM band in your area, you could then try the second alternative, if available, and then the third or fourth, depending on your local situation. And, no matter which alternative you decide upon, as a 10-watt station you would be licensed on a secondary basis, subject to interference from other stations without protection.

Though the deadline allows stations until their first license renewal in 1980 or thereafter to file for their chosen alternative, many stations who have decided upon one of the first 3 alternatives involving a frequency change are filing their applications as soon as they are able to, once a decision has been made. By filing early, the number of available frequencies may be more plentiful than if they waited until their first license renewal in 1980 or thereafter. The FCC has shown a willingness to consider and act upon these earlier applications as well.

SPECTRUM SPACE

When we discuss changes in frequency, or later on in operating power, one of the limitations to be faced is the finite amount of spectrum space, or room on the dial. When considering whether or not your station can move to a specific frequency at a given location, with a stated amount of power and antenna height, the technical limitation usually involves whether or not your proposed facility will cause interference to another station on the same frequency, or to one on an adjacent frequency one or two channels on both sides of the one you propose to use. Interference, in this use, is defined in specific technical terms familiar to engineering consultants. It is derived from mathematical calculations and not simply by subjective judgment of when one station's signal interferes with another's. Your engineering consultant would conduct a frequency search, in this case to find a local commercial FM channel capable of accommodating your 10-watt station without it causing interference; or they would check to see if the new 87.9 MHz frequency were available for use in your area; or they would look for a less preclusionary frequency than the one you're on; or they would show that you're already on the least preclusionary frequency in your area. These processes are less difficult for a 10-watt station, since it occupies a relatively small amount of spectrum space.

(The terms "channel" and "frequency" used in the rules and our discussion mean essentially the same thing. The FCC has assigned each frequency a channel number, starting with the new channel 200 at 87.9 MHz and going upwards with another channel every .2 MHz higher. For example, the next channel up is channel 201 or 88.1 MHz).

DECIDING UPON THE ALTERNATIVES

If you decide to remain a 10-watt station, you'll have to pursue the alternatives in the order listed. Of course, this limits how much actual choice you have. But, some subjective opinion on each of the alternatives may help in your thinking.

Moving to a spot on the commercial FM band is not all that bad, considering that most major development in that part of the dial has already taken place. As a 10-watt station with only secondary status, the lesser amount of expected changes involving new stations and expansion of existing stations may make things much more stable with regard to any subsequent changes. On the other hand, any frequency change will cost you, and you'll have to re-educate listeners on where to find you. By the way, though you would be in the commercial FM band, you would still have to operate as a noncommercial station.

The new 87.9 MHz frequency is available in such limited areas as to be virtually useless for most stations. We expect that the commercial FM band in those very areas would accommodate 10-watt FM stations under their first alternative, so they'd have little necessity to even consider the other 10-watt alternatives.

Moving to another frequency on the noncommercial FM band involves some cost and much less guarantee of stability in many cases. But, locating on a frequency which will only accommodate a 10-watt station may be more stable than occupying one with room enough for a higher-powered facility.

Remaining where you are as a 10-watt station is the least costly alternative, but only available if the first 3 are precluded to you for one reason or another.

You'd still have to make a technical showing to the FCC, but you wouldn't have to convert your transmitter and antenna, nor reprint your stationery, nor re-educate your listeners to a new dial location. But, your future stability is also far from guaranteed.

INCREASING POWER

Since some expenditure of funds is likely to be necessary for any of the above-mentioned alternatives, and since the end result is still a secondary facility, many schools, colleges, and universities are considering an increase in power for their stations. Increasing power takes the station out of the 10-watt secondary status, with all its inherent limitations and disadvantages, but places it in a class requiring greater responsibility and higher costs. Even so, the added costs and responsibilities have been faced successfully by other schools, colleges and universities for years in the operation of their higher-powered stations.

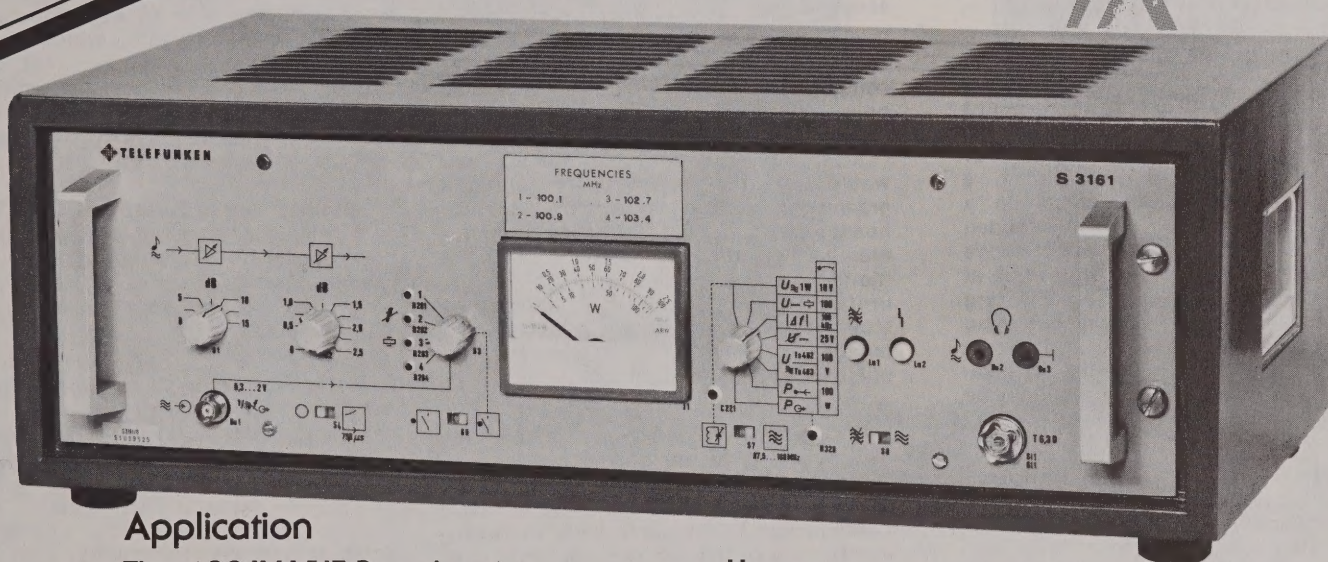
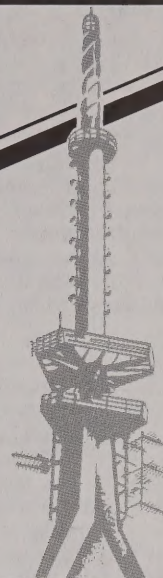
A power increase application can be filed on your present frequency, if it can accommodate the additional power, or on another frequency within the non-commercial FM band. In either case, FCC technical standards must be met to prevent interference with other stations on

100 WATTS

FCC says it...BAYLY has it!

SOLID STATE
100 WATT VHF
BROADCASTING
TRANSMITTER

Frequency Range
87.5 to 108 MHz



Application

The 100-W VHF Broadcasting Transmitter S 3161 is intended for frequency-modulated transmission — Mono or Stereo — over the VHF broadcasting range. It is fully solid state.

Use as:

Self-contained 100-W broadcasting transmitter.
On-the-spot transmitter
Drive unit for transmitters of higher power.

For further pricing and delivery
information please contact:

BAYLY ENGINEERING LIMITED

A member of the AEG-TELEFUNKEN group

167 HUNT STREET, AJAX, ONTARIO CANADA L1S 1P6 TELEPHONE (416) 683-8200 TELEX 06-981293



the same and on adjacent frequencies.

The power increase must be at least to the minimum acceptable level of 100-watts effective radiated power (ERP). ERP is the power that is the end product of your transmitting system: transmitter, transmission line, and antenna. Normally, the transmission line introduces some loss, which must be made up by the antenna or by having the transmitter power output itself exceed 100-watts so that, even with the line loss, the power coming out of the antenna will be at the 100-watt ERP level.

A power increase to the 100-watt level represents a realistic step for many 10-watt stations. Of course, if you can afford it, and enough room exists on the dial in your area, you can consider going up higher, to 1,000 watts, 5,000 watts, 10,000 watts or more. The only differences will be in the amount of cost (more), and the amount of "clear" space needed (more) on the noncommercial FM band in your area.

FREQUENCY SEARCH

The first step toward a power increase is determining whether your present frequency or another noncommercial FM frequency can accommodate a station of 100-watts ERP or more. Normally, a consulting engineer is hired to do a frequency search based on the intended location for the antenna, its height above average terrain, and the power level at which you intend to operate. Existing stations can identify an engineering consultant by checking their files to determine who conducted the original frequency search when the station was first established.

The consultant can determine whether your present frequency can accommodate the proposed increase or whether you will have to change to another frequency within the noncommercial FM band. They will also be able to determine if a directional antenna may make it possible to "squeeze in" a higher-powered station where space is tight. Of course, if your area is very crowded on the dial, there may not be a way to increase power on either your present frequency or another. In that case, you have no choice but to consider the alternatives for remaining a 10-watt station as described earlier.

But, assuming there is room for the increase, the factors for consideration then divide into 2 major areas: costs and responsibilities.

COSTS

Let's start with absolute minimums. Assuming your studios and transmitter are in reasonably good condition and your present antenna and transmission line are capable of handling your proposed power, the **minimum equipment** you will need to upgrade from 10-watts to 100-watts is as follows:

RF Power Amplifier (boosts 10w to 100w or more).....	\$2,500 - \$3,500
Modulation Monitor (mono).....	1,200 - 1,800
EBS Encoder (tone generator).....	175 - 300
	3,875 - 5,600

If your transmitter is located separately from your studios, a remote control unit may be needed to provide full control and metering functions (\$1,000 - \$2,200), along with associated leased interconnecting lines for control, metering, and audio.

To these costs, you'll likely have to add fees for engineering consultation, preparation of technical materials, and installation of equipment. Such costs can and do vary widely, depending on who does the work. Volunteers may help keep costs lower, but you must be assured of their competence.

Generally, the FCC First Class Radiotelephone license is an indication of some knowledge, but not always. The FCC itself does not require a particular license be held by the person compiling your engineering data for the application. It does require that the application meet the Commission's technical standards for acceptability.

Costs will be higher if you decide to add options like an automatic transmitter control system, or if you decide to replace or expand studio facilities at the same time. For example, if you decide to convert concurrently from mono to stereo, you would add equipment costs for turntable preamps, audio console(s), wiring, headphones, conversion of tape equipment, stereo modulation/frequency monitor, stereo generator, and possibly installation of an additional studio/transmitter wire line or microwave link. All of these costs relate to initial purchase and installation.

Operating costs would increase only modestly. The higher-powered transmitter would use more electricity, but at 100-watts, the difference would not be appreciable. You would also need a First-Class licensed engineer to perform weekly inspections of the transmitting system as well as an annual "proof of performance" check out. Monthly frequency checks must be done, but can be contracted out reasonably. These costs will vary with the engineer you select. You may be fortunate enough to have a qualified person to do it on a voluntary basis. Or, there may be someone on the college or university staff who is qualified and holds the required license.

Some of these points are repeated in the following section discussing technical operator and licensee responsibilities.

TECHNICAL OPERATOR AND LICENSEE RESPONSIBILITIES

In upgrading to 100-watts or more, stations and their licensees assume certain additional responsibilities. Some are simply extensions of present obligations, while others are entirely new. Here are some of the major ones:

1. Meter Readings — On-duty operators must log transmitter meter readings at sign-on, sign-off, and at least every 3 hours. For a 10-watt station, only the transmitter's on and off times must be logged. This is why a full-function remote control unit may be needed for the first time. Operators must also monitor the

meter and peak flasher on the modulation monitor (also new) to guard against "loudness" which could cause interference to other stations.

2. Weekly Inspections — A First-Class license holder must perform a weekly inspection of your transmitting system. If the system includes a remote control unit, it must be calibrated once a week to be in agreement with the actual transmitter readings.

3. EBS Weekly Tests — When performing the already-required EBS weekly tests, you must include the required double-tone signal from an approved EBS Encoder (tone generator). As a 10-watt station, you must do the test, but do not have to generate the double-tone.

4. Frequency Checks — Your transmitter's frequency will have to be measured accurately once a month, which requires special equipment that may not be on hand. Therefore, this measurement is often contracted out to an engineer who provides this same service for several stations in the area.

5. Annual Proof of Performance — "Proof" is a complete check-out of your audio and transmitting system against FCC specifications. This may be done by your First-Class licensed engineer, or it may be contracted out.

6. Ascertainment of Community Needs — 10-watt stations are exempt from ascertainment requirements, but stations above 10-watts are not. If you operate a station above 10-watts, you are obliged to survey community leaders and members of the public to determine a list of needs and problems of the community. You must then indicate how your past (or initially, proposed) programming has dealt, or will deal, with at least some of these needs and problems, listing specific problems and programs. The rules for noncommercial radio ascertainment are very flexible; they allow you to devise your own system, explaining it in a narrative statement to the FCC. Ascertainment is conducted each year and kept on file. More detailed information is filed with the FCC at license renewal time. Local commercial stations have faced ascertainment requirements for some years and are used to them. Meeting with the General Manager of a local commercial station might give you some idea of how they conduct their ascertainment project. Although their requirements are much more specific than yours, they may be able to give you a feel for the process. Because of the flexibility in the rules, your project should be somewhat easier than theirs, but it is a major effort requiring a good deal of time. It should be noted that several bills now before Congress as well as internal efforts within the FCC propose that ascertainment requirements be dropped as a part of a program of de-regulation of radio broadcasting. Indications are now that at

(Continued on Page 18)



10 to 1 you'll like ours!

Every studio needs a \$1,000 microphone. It tells everyone you're serious about good sound, and it impresses the talent.

But when the session gets under way, all that counts is results. Not price tags. And judged *only* by what you hear, the new AT813 Unidirectional Electret Condenser from Audio-Technica is going to truly impress you...at about 1/10 the cost you might expect.

Recently a recording engineering class at a major university made simultaneous multi-track tapes comparing our AT813 side-by-side with some of the best microphones money can buy. The informed and critical students did the judging.

Surprisingly, in many cases they couldn't find a nickel's worth of difference. And some preferred the AT813 sound to the expensive competition.

You may agree with these student engineers when you hear the AT813. Or you may not. But at these odds, you can't afford to overlook us. And for new studios just getting underway, who can't afford a roomful of top-dollar microphones, the AT813 is an effective way to achieve full multi-mike capability. Write today for the AT813 spec sheet and A-T microphone dealer list. Then see your Audio-Technica sound specialist for great sound...right from the start.



audio-technica.
INNOVATION □ PRECISION □ INTEGRITY

AUDIO-TECHNICA U.S., INC., Dept 99CO, 33 Shiawassee Avenue, Fairlawn, Ohio 44313

IBS summary report:

FCC minimum operating schedule

NOTE: FCC Docket 20735 includes a number of different areas affecting noncommercial educational FM stations. A major portion of this docket dealt with technical requirements and changes for 10-watt FM stations. These are discussed in a separate IBS Summary Report. The minimum operating schedule rules, however, apply to ALL noncommercial educational FM stations, regardless of power, though some of the procedures may be slightly different for 10-watt situations with regard to share-time applications, as we'll explain. Some confusion has resulted from the originally-adopted requirements and later changes. This report is an attempt to summarize and clarify the new requirements as they now stand.

BACKGROUND

Because of the rapidly diminishing amount of space remaining open in the noncommercial educational portion of the FM band (88.1 - 91.9 MHz), the FCC has adopted a number of measures designed to achieve a higher utilization of these frequencies. One of the changes involves imposition of a minimum operating schedule, a requirement which previously applied to commercial stations, but never before for non-commercial educational stations. In line with the Commission's "use it or lose it" approach, a relatively low initial minimum was set, with the expectation that standards may eventually become higher at some later date.

MINIMUM LEVEL

Two separate and distinct levels have been established. The first and least difficult to meet is the minimum schedule required in order to maintain your station's license:

73.561 [a] — "All noncommercial educational FM stations will be licensed for unlimited time operation except those stations operating under a time sharing arrangement. Beginning January 1, 1979, all noncommercial educational FM stations are required to operate at least 36 hours per week, consisting of at least 5 hours of operation per day on at least 6 days of the week; however, stations licensed to educational institutions are not required to operate on Saturday or Sunday or to observe the minimum operating requirement during those days designated on the official school calendar as vacation or recess periods."

Note that this new requirement went into effect January 1, 1979, so your station should already be meeting the minimum hours indicated. If you are licensed to an educational institution, you are not required to operate on Saturday or Sunday, but you still must meet the weekly minimum total of 36 hours. Simple mathematics will make it obvious that you must operate more than the 5 hour daily minimum on one or more of those days in order to reach this minimum 36 hour weekly total.

Most school, college and university-based stations should have little problem in meeting these daily or weekly minimums during the normal academic year.

Initially, the new rules required a minimum 6 day/week operation, but this was reduced to a Monday-Friday minimum for stations licensed to educational institutions. Allowances were also made to permit these stations to leave the air during official school vacation or recess periods. This would seem to meet the special

situation encountered by these school, college, and university-based stations.

SUMMER OPERATION

However, in the Memorandum Order and Opinion released January 11, 1979, the FCC raised a possible problem when it interpreted those schools, colleges, and universities who conduct Summer sessions as **not** being officially on vacation:

"We are not persuaded, however, by the suggestion that we exempt summer sessions and other times when the school is in operation but a majority of full-time students may not be in attendance. Unlike recess periods, the staff is on hand in summer sessions, the buildings are open, and at least some [if not all] of the students are on hand. We cannot agree that an exemption should automatically apply to these cases and we will reject that part of the petitions."

If we are to take the Commission at its word, if your school, college, or university conducts any summer sessions, intersessions, or special programs during a time when we would ordinarily consider the school, college, or university to be on vacation or recess, its radio station would be required to maintain the minimum operating schedule indicated in 73.561(a).

WAIVER REQUESTS

If your station usually goes off-the-air for the summer, but your school does hold summer sessions, the only way you can legally remain off-the-air and maintain your station license is to apply for an individual station waiver of 73.561(a). (Remember, though the FCC says it won't **automatically** grant

New rules call for new decisions.

The new FCC Rules for stations operating with less than 100 watts of power raise some interesting and important questions. For instance, should you increase power or change frequency? Could you do both? What's your position likely to be with respect to other stations also seeking to improve. How do you protect your present frequency or pick out the second best choice? What will a power increase or frequency change cost you in equipment, paperwork, and time? Where can you get the money? And if you decide to increase power, how do you handle the new FCC requirements for ascertaining community needs?

Interesting questions indeed and you'll need to have some answers soon. We'd like to help you find the right answers for your station.

We're Educational FM Associates and during the past six years we've successfully guided more than 100 schools and colleges through the intricacies of the FCC license application process. We'd appreciate the opportunity to serve your station as well.

Call us. There's no obligation. You'll find our service reliable and thoroughly professional. And our fees are reasonable.

Educational FM Associates.... serving more than 100 non-commercial stations since 1972.



EDUCATIONAL FM ASSOCIATES • 19 Bolas Road • Duxbury, Massachusetts 02332

Telephone: (617) 585-9200

an exemption, it **will** consider each individual situation).

If you request a waiver for your station, you'll have to make a good case for your station's particular circumstances, and why it would be in the public interest to grant a waiver of that provision of the rules for your situation.

Listed below are some of the kinds of points you may want to consider in such a waiver request if they apply to your situation. Some may be valid only in certain cases, so consider them carefully before using them. If you do use one or more, make sure you adapt it to your individual circumstances, presenting as much factual supporting data as you can to strengthen your request.

1. **BUDGET** — prepared before rule went into effect — does not include summer operating expenses; will plan for compliance next year.

2. **BUILDING ACCESS** — though summer sessions will take place, building housing radio station will not be open for use.

3. **LIMITED REQUEST** — waiver request is only for this summer with planning now to meet requirement next year. (Commission is hesitant to grant long-term or blanket waivers; is more likely to consider limited-term waiver).

4. **SIZE OF SUMMER SESSION** — extremely small compared with normal academic year; not enough students to properly staff station for even minimum hours required; studies more concentrated than normal academic term; audience both on and off-campus significantly diminished during summer.

5. **SERVICE TO COMMUNITY** — will be provided by other stations in area during your off-air time.

6. **SUMMER SESSIONS NOT CONTINUOUS** — there may be periods of time over the summer between schedule sessions when school is shut down and station would not be required to broadcast; Intermittent schedule would not be in the public interest where station went on-off-on-off, etc.

7. **PUBLIC INTEREST** — if station is forced to operate during summer to retain its license, requirement couldn't be met, station would have to forfeit its license and public would be

deprived of service. Alternatively, if station struggles to maintain level of service during Summer at barest minimum to meet FCC requirements, program service may also be at a minimal level and not up to the usual standards of community service provided by the station during the normal academic year. Public interest considerations would therefore be better served through grant of waiver this year, particularly with eye towards meeting Commission requirements in future years.

There is no FCC form for making waiver requests. Put your request in the form of a letter with supporting data and address it to: Federal Communications Commission, Attn: Jonathan David, Policy and Rules Division / Broadcast Bureau, 1919 M Street, N.W., Washington, D.C. 20554.

SHARE-TIME

So far, our discussion has dealt with the minimum operating schedule you must maintain in order to continue to hold your station license. But there is a higher level which must be met by 1/1/80 if you want to avoid vulnerability for a possible share time application being filed for your station's frequency:

"73.561[b] — Effective January 1, 1980, all stations, including those meeting the requirements of paragraph [a] of this section, but which do not operate 12 hours per day each day of the year, will be required to share use of the frequency upon the grant of an appropriate application proposing such share time arrangement. Such applications shall set forth the intent to share time and shall be filed in the same manner as are applications for new stations. They may be filed at any time, but in cases where the parties are unable to agree on time sharing, action on the application will be taken only in connection with the renewal of application for the existing station. In order to be considered for this purpose, such an application to share time must be filed no later than the deadline for filing applications in conflict with the renewal application of the existing licensee."

In simple terms, if your station is on the air less than 12 hours/day, every day of the year, it is vulnerable to a share time application for its frequency at its first renewal in 1980 or thereafter. Share time means a sharing of time on that specific frequency, and not necessarily any sharing of equipment or studio facilities, unless it is so agreed upon by the parties involved.

There is no limitation on how much time a share-time applicant can request; it can request more than just those hours not now being utilized by an existing station. Each case will be considered individually by the FCC, but obviously the more hours you are operating, the better position you'll have.

Whether or not your station might have a share-time application filed against it depends not only on your meeting the 12 hour/day minimum every day of the year, but also on the availability of room on the non-commercial FM portion of the band in your local area. If it's very crowded, a share-time application may be the only method a new group has of getting a station on the air. However, if there's ample room to establish a new station on another frequency, the new group would usually prefer the full-time opportunity it presents, and there would then be much less chance of a share-time application being filed for your station's frequency.

In some cases, a share-time arrangement may be to the benefit of all concerned. For example, if a station cannot operate year round itself, it might seek out a cooperative arrangement with another local educational institution to help staff station operations during vacation periods, either under the existing licensee's jurisdiction and control, or under a share-time arrangement with a second licensee.

But, share-time arrangements are not the easiest of conditions under which to operate, particularly when special events programming is involved and the event to be covered occurs during the "other" licensee's air time. Dividing the times into a workable and equitable schedule for both parties is also not very easy. On the other hand, share-time is already in existence in a number of cases, and it can work.

If at all possible, however, it is best for each station to meet these minimum

requirements itself, especially where an unwanted share-time application may be likely to be filed. Meeting the 12 hours/day, every day of the year requirement, while not easy in itself, does protect a station against a share-time application, and it does provide a fuller service to the listening public. Stations can use a number of scheduling, mechanical, and electronic devices to aid them in filling out their schedules. Included are the use of pre-taped programs, pre-planned repeat broadcasts, semi-automation for limited time periods, weekend and holiday specials, recruiting and utilizing local community volunteers to supplement your student staff, etc.

SHARE-TIME: 10-WATT STATIONS

Two conflicting rules have gone into effect regarding possible share-time applications involving 10-watt stations. First, there is a "freeze" against acceptance of any new 10-watt station applications. (Minimum now is 100-watts ERP). Second, regardless of power, any noncommercial educational FM station not operating at least 12 hours/day, every day of the year by 1/1/80, is subject to the possibility of a share-time application being filed for its frequency. In the case of 10-watt share-time applications, you can see the contradictions involved in these two provisions.

In speaking with members of the Commission's staff, the "freeze" rule seems to outweigh the share-time rule, in theory precluding the acceptance of new 10-watt station applications in the form of share-time applications. HOWEVER, a share-time applicant COULD ask the FCC for a waiver of the freeze to allow acceptance of its share-time application for a new 10-watt station. Of course, FCC staff people say officially that each such waiver request would be given individual consideration. Our guess is, though it might get slightly delayed, it eventually might have a decent chance for acceptance and grant.

The FCC will probably hold on to any 10-watt share-time applications without taking any action at least until the existing station's application had been filed for a frequency change, power increase, or a showing that the station was foreclosed from the other

options and was already on the least preclusionary frequency in its area. (Power increase deadline for filing is 1/1/80; filing on the other options must be no later than with your station's first license renewal in 1980 or thereafter).

Our feeling is that, once the existing 10-watt station's frequency change situation was decided upon and stabilized, the waiver to consider acceptance of the share-time application would have a good chance of being granted. Then, the parties would

be encouraged to work out an agreement themselves. If they couldn't, the FCC would then impose an arrangement.

Share-time applications proposing the same station power as the existing licensee would seem to have a reasonably good chance at the FCC. However, if the existing 10-watt station were increasing facilities to 100-watts or more, and the share-time application continued to propose a 10-watt station, it would seem to have considerably less of a chance, at least



(What happens next is the difference between Fidelipac Blank-IT and your current bulk eraser)

Break the law of gravity with your current bulk eraser and go pick up another one. Do the same with Blank-IT, and just go pick it up. Blank-IT goes right on bulking.

Fidelipac houses Blank-IT in a lightweight, balanced case that's virtually indestructible. Installs a high mu core with a longer ON duty cycle and more magnetic strength than any hand-held

eraser. Builds thermocouple protection into that core for burn-out proof operation. Tops it with a balanced, contoured handle that stays where we put it. And unconditionally guarantees Blank-IT against electrical burnout and mechanical breakage for a full year after purchase.

\$59⁹⁵ Manufacturer's Suggested Retail Price

Blank-IT. By Fidelipac. The first hand-held bulk eraser guaranteed to stand up. After the fall.

**ELECTRONICS by
FIDELIPAC®**



109 Gaither Drive • Mt. Laurel, NJ 08057 U.S.A. (609) 235-3511

® Trademark

at present.

Sharing time with an existing 10-watt station does not have much appeal, except when there is no other way of getting on the air. Since minimum new station applications are now at 100-watts ERP, however, some may look to a 10-watt share-time as a way of circumventing the freeze on new 10-watt station applications. This may work in crowded areas, but where room on the dial is plentiful, it would have a much rougher time.

The only real differences involving

share-time for a 10-watt station then is the necessity for the share-time applicant to request a waiver of the freeze, and a likely delay in any action until the existing 10-watt station filed for the alternative they intend to pursue in a frequency change, power increase, or a showing of present occupation of the latest preclusionary frequency in their area.

SUMMARY OF MINIMUM OPERATING REQUIREMENTS

**I — Minimum Schedule to maintain
your license — effective 1/1/79 for**

stations licensed to educational institutions: 5 hours/day, Mon.-Fri., minimum weekly total: 36 hours, "official" vacations exempt.

**II — Minimum Schedule to avoid
vulnerability for share-time ap-
plications — effective 1/1/80 12
hours/day, every day of the year.**

REMEMBER . . . These are **minimums**. Stations are encouraged to operate at levels over and above these minimums according to their resources.

alternatives to a table of assignments for the noncommercial FM band

by Jeffrey S. Close

Editor's Note: In the last issue of JCR, an extensive article reprinted our comments and pointed out several severe problems with the Table of Assignments that the Corporation for Public Broadcasting has proposed for the noncommercial part of the FM spectrum. Though such a table involves highly complex technical considerations, the basic principles involved can be easily understood even by non-technically-minded student broadcasters.

At this time, the commercial AM and noncommercial FM bands work in somewhat similar fashion when it comes to new stations. An applicant conducts a frequency search for a vacant local frequency which will accommodate the proposed station at the proposed location, and with the proposed power, without causing or receiving interference from other stations on the same or adjacent frequencies. Aside from ascertainment of community needs, financial resources, and other considerations, if the identified frequency will accommodate the proposed station without interference, the application is generally accepted for filing. That's how the process works without a table of assignments.

The TV and commercial FM bands both utilize a Table of Assignments, however. In these bands, an applicant can only apply for a new station on a vacant frequency already assigned to his/her local community or one nearby. If there is no vacant frequency already assigned, the applicant must determine if an unassigned vacant frequency would accommodate the proposed facility, then the applicant must apply to the FCC for a rulemaking to assign that frequency to that locality. Obviously, this extra step takes some time, and usually some monetary expenditure for legal and/or technical counsel. Should the FCC act favorably on this rulemaking, the frequency is then assigned to that community and, at that point, becomes open for anyone to file a construction permit application for its use. An applicant who petitioned for the rulemaking to have the frequency assigned to the community is not guaranteed use of the frequency, but instead could face competitive hearings with others seeking use of the same frequency once it was assigned to that community.

A Table of Assignments thus tends to make it more difficult to establish a new station, particularly where the

Table does not already contain a vacant frequency in your intended community.

Imposition of such a Table for the noncommercial educational FM band is one of the proposals under consideration in Docket 20735. The proposal under discussion is one largely promulgated by the Corporation for Public Broadcasting [CPB] as the result of a computerized program it financed. Its prime objective seems the expansion of available frequencies for high-powered CPB-funded stations.

For a number of reasons, IBS has opposed imposition of such a Table. These reasons were explained in our comments reprint in the April, 1979 issue of JCR. Also in that article, Ludwell Sibley presented a brief look at some of the possible alternatives to a Table of Assignments. This article will present a further look into available alternatives.

Although the author is employed by the National Telecommunications & Information Administration [NTIA], the opinions expressed here are those of the author and not necessarily those of NTIA.

The original deadline for filing

comments on the proposed Table was January 2, 1978. This was later extended to October 15, 1979 to provide an opportunity to review a Report being prepared by the FCC's Office of Chief Scientist pertaining to Channel 6 TV interference considerations before filing final comments. That Report was expected in July, but had been delayed. So, in late August, the filing dates for comments in this proceeding were extended indefinitely. Once that Report is completed, the Commission will set new filing dates. If the Channel 6 TV interference situation is of particular interest to your station, you might want to drop a note to the Office of Chief Scientist at the FCC, 1919 M St., N.W., Washington, DC

20554 and ask that a copy of this Report be sent to you when completed.

One of the problems with previously-adopted rules changes has been the relatively small number of comments filed by individual school and college radio stations. The FCC cannot be expected to fully understand your feelings if you don't make them known to them in writing. With more changes in the offing, and as an interested party in this proceeding, you are urged to file comments with the FCC. Because this specific topic is in many ways involved with technical matters, you may want to get some of the engineering and technical people at

your station involved in comment preparation and filing. In addition to the following article, you may want to re-read the one published in the April, 1979 issue of JCR for background. To file comments, send an original and 5 copies to the following address:

Mr. William J. Tricarico,
Secretary
Federal Communications
Commission
1919 M Street, N.W.
Washington, DC 20554

And you might send an extra copy to IBS, P.O. Box 592, Vails Gate, NY 12584, so we know what you've filed.

JT

In its Further Notice of Proposed Rulemaking, (FNPRM), the FCC expresses doubts of its own about a Table of Assignments for the non-commercial educational FM band:

"Originally, we expressed our belief that it was unlikely that a nationwide Table of Assignments could be developed for the FM Channels . . . , we had serious questions about our being able to decide where the need was for the assignments."
[FNPRM Docket 20735, June 19, 1978].

In light of the previously published IBS comments, it appears the Commission's statement above is correct. Assignment Tables can be of use to the orderly growth of a new broadcast service, but to date, retrofitting one to a **mature** service has not been tried. (For example, AM radio has never had such a Table retrofitted).

Any plans for the use of the non-commercial educational FM band must look to the maintenance of local service and its expansion, while expanding regional service as envisioned by CPB.

In addition to the CPB plan for 9 classes of FM stations, the National Telecommunications & Information Administration (NTIA) has presented further methods of handling the spectrum problem in the commercial portion of the FM band that apply equally well to the noncommercial educational portion of the band.¹

One of the NTIA proposals is the extensive use of FM directional antennas:

*"Directional antennas are an effective and wisely used tool for promoting the efficient use of the radio spectrum. . . . In contrast to omnidirectional antennas, directional antennas allow transmitted signals to be concentrated in certain directions and suppressed in others. . . . They can also be used to reduce the signal strength in a given direction so that interference to a distant station can be reduced or eliminated. By careful siting of the transmitter, both objectives can often be achieved simultaneously."*²

Although the Commission presently permits FM directional usage in special cases, it is not permitted to bypass the mileage separation specifications. The Commission may find the noncommercial portion of the FM band a more suitable test case for the usage of directional antennas before allowing their general usage in the commercial FM band.

Comments on NTIA's petition for usage of directional FM antennas, have shown a concern that although FM directionals are far easier to predict and maintain than AM directional antennas, they can, nonetheless, be set askew by lightning damage. These commentators do not point out that most antennas that are significantly damaged by lightning will result in a change of voltage

standing wave ratio (VSWR). In addition, modern techniques to prevent lightning strikes to broadcast towers have been developed and are elaborated in the 1975 edition of the Engineering Handbook of the National Association of Broadcasters (NAB).

IBS comments authored by Ludwell Sibley in the April issue of **The Journal of College Radio**, suggest the

Audio Tape for professionals



REEL TO REEL TAPE
Ampex, 3M. All grades.
On reels or hubs.

CASSETTES, C-10—C-90,
With Agfa, Ampex, 3M tape.

LEADER & SPLICING TAPE

EMPTY REELS & BOXES
All widths, sizes.

— COMPETITIVE • FROM STOCK —

For your catalog, call or write: **Connie Reed**
312/297-0955

Recording Supply Co.
Div. of Polyline Corp. 1233 Rand Road
Des Plaines, IL 60016

Commission return to using the presently suspended terrain correction factor (Sec. 73.333). NTIA's FM petition, with the backing of NTIA's Institute for Telecommunication Sciences (ITS), goes much further along these lines to suggest the use of a computerized model for terrain correction. It is well known that a mountain range and/or rough terrain between two co-channel or adjacent channels will reduce interference. The exact effects are complex, but after more than a decade of study with many computer models, ITS has models that it feels are usable. The reasonable accuracy of these computer predictive methods has recently been born out by the comparison of ITS predictions to known field strength contour mappings.³

A good example of the usage of this computer modeling was recently submitted by NTIA, concerning low power TV stations (B.C. Docket 78-253). NTIA showed that by use of directional antennas, (and precise offset), a new low power VHF TV station could be added to Bakersfield, Ca. without causing interference to station KABC in Los Angeles. With the addition of terrain effects, the model was reworked to get a higher power for the new Bakersfield station. And since the computer can compare signal coverage with demographic information, the directional characteristics of the antenna could be adjusted to cover the greatest population with a usable signal. It should also be noted, in passing, that the thrust of NTIA's low power TV filing was to create a low power TV service that could provide local programming to rural areas and specialized service to urban specialized populations.

A further example of the usage of the NTIA-ITS computerized model is its use by the National Weather Service. The National Weather Service (NWS) has a limited number of channels on which to operate and is often limited by interference that two of its own stations cause to each other. NWS can use the computer to predict the coverage of new stations. It can feed the computer the actual locations of present broadcast towers and find which one would work best. NWS can also look at what benefits might be gained by moving or changing an existing station in conjunction with the addition of a new station in order

to optimize NWS coverage. ITS has hopes that this service may become available as early as 1980. Should this happen and should the FCC decide to accept this service, a new high power (or NPR), station could get on the computer, see what stations, particularly Class D 10-watt stations, are preventing them from coming on the air. Next, the high-powered station could find, via the computer and in a relatively short time, an appropriate channel for the Class D 10-watt station to move to. The move of this 10-watt station should be paid for by the proposed new station wishing to use the channel. To do otherwise would be unfair to the Class D 10-watt station. The benefits of this system are the minimal change to the Class D 10-watt service, yet permitting the newly desired NPR or other higher-power noncommercial station to have a very good chance of finding a place in the noncommercial FM band. Adoption of this system would stop the disruptive changes now going on in non-commercial educational radio, and provide for smooth expansion, which is certainly in the public interest.


NTIA's petition goes on to suggest a longer range solution for FM radio in going to 100 KHz or 150 KHz spacings. No large study has been done to date on this possibility. Some European countries have gone to 100 KHz spacing but very involved technical questions of protections ratios, use of SCA in the U.S., and the possibility of Surround-Sound FM makes this a very complex issue. 100 KHz spacing would not be desirable for the non-commercial educational FM service as it would damage the use of SCA service for the blind. 150 KHz spacing may be possible and should be considered for the longer range future of efficient spectrum usage in the FM bands.

CPB may also find that some of its goals can be furthered outside the noncommercial educational FM band. Although CPB has hopes of opening-up some of the clear channels in AM radio for noncommercial stations, it is perhaps also possible that the present Notice of Inquiry on 9KHz spacing for the AM band may open more channels for noncommercial educational use. Some of the new AM channels created by a move to 9 KHz spacing might be reserved for noncommercial use. Daytime slots given up by Class II and Class III AM stations could be

reserved, at least in part, for non-commercial usage. These daytime slots are, by their very nature, much less desirable for commercial broadcasting. But, the goals for Public Radio as set out by the Second Carnegie Commission could be met in part with the usage of daytime AM stations.

A harmful and technically needless contest has been going on for several years between CPB/NPR and IBS radio stations. CPB/NPR has been able to look out for its own interests before the FCC and has done so occasionally to the detriment of the IBS stations. The Second Carnegie Report has called for the quick expansion of the NPR system to more than double its present size. In CPB's rush to meet this mandate, it has incautiously and perhaps unintentionally stepped on small college stations.

The spectrum scarcity issue in the noncommercial FM band is real, but it can be resolved to the benefit of all parties involved, with a very minimal amount of change to existing stations. The freeze on Class D 10-watt stations should be lifted immediately in rural areas and should be lifted to whatever degree possible in urban areas. The Commission should issue a Second Further Notice of Proposed Rule Making to institute the use of the ITS computer model that in particular takes into account directional antennas and terrain attenuation effects. Further, **NO** Class D 10-watt station should be required to move until an application is granted that requires the movement of that station to a different frequency and in all such cases, the expense of the move should be covered by the proposed new station. And on the question of time-sharing, it should be made evident that those stations that fall open to such sharing will maintain priority on those times of day and times of the year during which that station normally operates. To do otherwise, the Commission would have to determine the reasons why the usual methods of grandfathering that exist in other broadcast services,



BACK ON THE AIR!
Gunsmoke
 The Original Radio Network Series
 starring William Conrad
 Now available for local purchase.
CHARLES MICHELSON, inc.
 9350 Wilshire Blvd., Beverly Hills, Ca. 90212 • (213) 278-4546
 127 West 26th Street, New York, N. Y. 10001 • (212) 243-2702

should not exist in this service.

Noncommercial educational radio from 10 watts to 100,000 watts provide a variety of public benefits. It is hoped the Commission will look to let the public have all the benefits of **all** types of noncommercial educational radio.

NOTES

- 1. Petition of the National Telecommunications & Information Administration of April 1979 concerning FM radio, pages 24-28.
- 2. See #1 above.
- 3. NTIA report 79-20, Ground Wave Propagation over Irregular, Inhomogeneous Terrain: Comparisons of Calculations and Measurements. Note this work deals with frequencies below the FM band.

*“instant”
operator
licenses
established*

Once upon a time, obtaining an operator's license for use at most radio broadcast stations was a major obstacle to overcome. The minimum license needed was a Third Class Radiotelephone Operator Permit with a Broadcast Endorsement. This meant some serious studying to pass the

**PROFESSIONAL
JOB OPPORTUNITY:**

**Station Manager for Student
Association**

Station Manager for new 15 KW, Class C, noncommercial educational student FM radio station. Experience in developing and managing campus FM station helpful. Responsible for implementation of radio board policy, developing station personality, hiring staff and ensuring all federal and university regulations are complied with. Bachelors degree and four years experience or Masters and two years experience. Minimum salary \$14,000, with non-teaching faculty status. Application deadline September 22, 1979, with position available October 1, 1979. Submit resume to: Danny Campbell, CSUN President, University of Nevada, Las Vegas, 4505 Maryland Parkway, Las Vegas, Nevada 89154.

AN EQUAL OPPORTUNITY
AFFIRMATIVE ACTION EMPLOYER

JCR Articles Wanted

For upcoming issues, we need articles on any and all aspects of school, college, and university radio station operations and programming.

Are you doing something different at your station that might work for other stations as well? Write it up, and we'll get the word out.

Have you written a paper for a broadcast course that might be of interest? Would you enjoy seeing it receive national publication and distribution? Send it along.

While we cannot pay monetary compensation for articles used, we can provide publication along with your byline, giving you deserved recognition, and a point or two for resume-building.

Topics can include:

- Music • Internships • Licensee Responsibilities
- News • Fund Raising • Sports • Career Planning
- Station Security • Writing • Playlist Creation • Minority Coverage
- Training • Engineering • Programming
- FCC Issues • Production • Record Library Systems
- or most anything else you can think of.

Send your articles to:

Editor, The Journal of College Radio
Box 592, Vails Gate, NY 12584

FCC exams on the rules, regulations and technical material contained in elements one, two, and the especially dreaded element nine.

Then, the FCC decided that was too much to ask of operators. And, it reduced its minimum license requirements to the Restricted Radiotelephone Operator Permit level, requiring applicants to be at least 14 years old, U.S. citizens, to be able to transmit and receive spoken messages in English, and to be able to keep a rough written log. No exam is needed. And, the dreaded element nine was in fact eliminated, along with the Broadcast Endorsement. All you basically have to do is get a copy of FCC form 753, fill it out, sign it, and mail it in to the FCC's Gettysburg, Pennsylvania office for processing.

But, this processing may take some three to four weeks before the license is received by the operator. Meanwhile, the license applicant has had to wait until the license arrived before legally operating a broadcast station. Now, even this waiting time has been eliminated.

Under the recently effective new rules, besides filling-out the required application form (FCC form 753), "Applicants will complete an additional form stating that an application has been submitted and giving the date of submission. This form will be retained and will serve as temporary operating authority. It will be valid immediately upon mailing the

**18 Years Experience
Helping Stations Deal
With the FCC
In**

ALLOCATIONS APPLICATIONS and CHANGES

**Assistance With Design,
Financing And Construction**

**LOW COST
HIGH QUALITY**

**May We Be Of
Service To You?**

**BROADCAST TECHNICAL
SERVICES, LIMITED**

**POST OFFICE BOX 11069
LANSING, MICHIGAN 48901**

(517) 487-0900

application and will remain valid for a period of 60 days or until receipt of the permanent permit." Instant licenses are here.

For copies of FCC form 753, contact IBS or your nearest FCC field office.

so you want to increase your power?

by Jerry C. Hudson — Assistant Professor
Texas Tech University

The adoption of Docket 20735 by the Federal Communications Commission has brought frustration and anxiety to many ten watt college radio station managers. Docket 20735 requires ten watt stations to increase power and/or change frequency and meet minimum weekly operating hours. The low power stations must adopt the new guidelines or face the possibility of losing their license. The solutions relevant to the minimum power and weekly operation problems are numerous and complicated.

One must analyze, evaluate and question all possible solutions before making the final decision. Pressures may be applied from many campus and community representatives concerning (a) additional finances to make the change, (b) station programming policy and (c) attitudes of local commercial broadcasters.

Finances

At most college stations, one may seek financial assistance from the school's administration, student fees, the Corporation for Public Broadcasting and/or the local community.

Stations licensed to colleges and universities are often administered through academic departments, the institutions' offices of public information, or as an extra curricular activity under the Dean of students.

The primary obligation of a broadcast station is to serve in the public interest, convenience and necessity. The FCC requires stations to serve the needs of their local community and have imposed ascertainment of community needs requirements on stations over 10-watts as a method of determining community needs and problems, and programming to meet them.

However, internally, within the school, college, or university, the radio station can often fulfill other roles as well. For example, if the station is utilized as an academic laboratory, the administration must be convinced that the station is a benefit to the student's degrees. One must justify the budget increase in terms of departmental enrollment and student costs. Assuming that one is persuasively successful, the administration could increase the departmental maintenance and operating budget or provide a new departmental line item. In either case, the station is guaranteed specified funds for the increase. However, administrators are often annoyed by repeated requests for extra budget. Make sure the original request is adequate to cover the entire change. If the administration refuses a second or third request for extra monies, the department budget may be too small to make up the difference. Then the station's management must turn to other sources for the necessary financial resources.

Stations without academic support may receive funds directly from the administration as a separate budget through the office of public information. In that case, the institution's public relations benefits are reviewed prior to any financial commitment.

Often the station's budget is supplemented by or consists entirely of student activity fees. The student government determines the allocation of student fees. This does not insure continuity, however, since the student government can grant funds for one academic year; then reduce or refuse funding for the following year. The student government evaluates student access, benefits and utilization of the station and makes annual budget allocations accordingly.

A third source of financial support is the Corporation for Public Broadcasting. Qualifications for CPB funds are strict and beyond the means of most student-staffed stations. Yet, according to Bernard D. Mayes in **Public Telecommunications Review**, March/April 1979, a public station meets qualifications at the rate of one per week.

To qualify, a station must maintain at least five full time, professional employees. The educational institution must pay each full time station employee a weekly salary of at least minimum wage for forty hours. Neither student employees nor faculty members who teach more than one, three hour academic course may be classified as full time station employees for CPB qualification purposes. An employee's major responsibility must be to the radio station.

The station must broadcast a minimum of eighteen hours each day, three hundred and sixty-five days a year. Down-time due to technical problems is the only exception.

The most rigorous CPB stipulation is the station's matching funds. The station's locally-raised annual budget must total a minimum of about ninety thousand dollars. Many entire academic departments operate on less.

The CPB grants range between thirty and thirty-five thousand dollars per year. Grant monies may not be used to meet minimum station qualifications, but may be budgeted for fund-raising activities, advertising, programming costs and capital items. Station audits and visits are made by CPB representatives.

A fourth and growing source for station capital and operating funds is through local community support. Most often, this takes the form of

listener donations raised through special events, auctions, marathons, and regular on-air appeal announcements. Donations and underwriting grants can also be solicited from local businesses, but college development officials can be very sensitive about this. It is best to try to coordinate these efforts with them rather than take the chance of losing their support by approaching the same donors as they normally call upon for other purposes.

The quickest and easiest avenue for financial support may not be the best choice relevant to future programming policies.

Programming

When the campus-based station is operating at low power, a smaller number of administrators, faculty, students or campus organizations may listen to or take interest in the station programs. But once an increase in power is granted, everyone becomes an authority on radio programming.

You may have an administration looking for good public relations, a faculty interested in academic training, a student body looking for innocuous music, and a community interested in something not otherwise available locally. Balancing these sometimes opposing interests is a continuing challenge. The usual result is a form of block programming, presenting different kinds of programs at different times of the day and week, in an attempt to satisfy a variety of needs and interests.

Some programming elements, such as on-campus lectures, "live" concerts of jazz or classical music, and public service announcements of campus and community activities can serve multiple interests at the same time.

Practical problems must be faced in station programming. Many college presidents feel insecure with media coverage of critical issues and decisions concerning institutional policy. Therefore, some administrators warn station personnel (discretely and indirectly) about investigative reporting which could reflect negative attitudes to the general public and student body.

Some consideration must be given to student program desires because student fees may be used to finance the station. Student organizations

want weekly air-time to publicize their activities. Each student wants the station to play his or her favorite music without interruption. The station staff is usually divided on musical format and the amount of programming time given to news, public affairs and/or campus organizations.

If CPB funds are accepted, the station must provide a specific amount of the annual broadcast time to news, the arts, public affairs, drama cultural and educational programs. The Corporation for Public Broadcasting would like for each program to enlighten the listener and lift the audience above the audience prostitution found in commercial broadcasts.

Commercial Broadcasters

Prior to an increase in power, numerous commercial broadcasters voice moral and financial support for the low power stations. Commercial broadcasters know that in many instances the station's signal is too weak to cover the city. There is little concern for program and personnel competition. However, an increase in power could result in direct audience and personnel competition.

For example, a campus-based station that covers the entire city with a powerful signal could play uninterrupted, popular formatted music and dominate the young adult audience. Listeners would not be exposed to frequent commercial interruptions. Market ratings for commercial stations could drop significantly. The campus-based station could actually "steal" listeners from the commercial stations. But this is an unlikely situation since these stations more often serve different segments of the audience.

A station trying to develop and maintain CPB standards may actively compete for market talent. Many professional news positions at CPB qualified stations are filled with paid personnel from commercial stations. News personnel like the liberal holidays and the opportunity to develop features and documentaries relevant to human and social problems.

Commercial broadcasters who become weary of the pressures associated with ratings seek the comfort of a slower paced em-

ployment context with opportunities for program creativity. The average salary of most CPB qualified stations is a little above the commercial market.

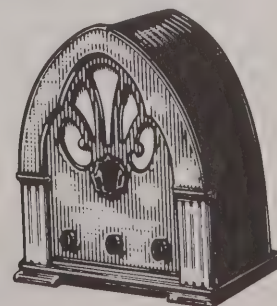
Managers of commercial stations may question the value of a broadcasting or journalism degree from one's respective institution. Is the station serving one of its purposes to train broadcasters for the commercial market and is it trying to give away programming that commercial stations are trying to sell?

Commercial broadcasters are not without influence with school, college, and university administrators. Student-staffed stations may be on the outside looking in as football and basketball broadcast rights are exclusively reserved for local commercial stations. Important press releases may be distributed and news conferences may be held without specific notice being given to the campus-based station. Information flow is controlled by the administration with often little preference given to the campus-based station. Quite often, the opinions of commercial broadcasters can and do influence administrative decisions concerning campus-based stations.

Conclusion

Docket 20735 may not be the salvation or the death of a low power station, but it is a requirement which cannot be taken lightly. The initial thought of developing maximum power should not cloud the station's future purposes and goals. The station can grow professionally and become a contributing force within the community and on campus or it can wallow in conflict.

Increase your power? Why not? But to be successful, the station's management must maintain financial and programming control. A powerless management can not develop or complete station goals and priorities. Decisions should be made with the students in mind.



summary report: docket 20735

continued from page 6

least some loosening of these requirements can be expected, but for planning purposes, it may be more prudent to assume continuation of present obligations.

IF YOU'VE DECIDED ON A POWER INCREASE

First, arrange with an engineering consultant for a frequency search. Concurrently, you may wish to request half a dozen copies of FCC form 340, an application for a construction permit. Once a frequency search is conducted, and you complete and file your FCC form 340 application, it will take several months for processing. Within a few weeks, you will receive a postcard indicating receipt of your filing and assigning it a file number. The wait can then be three to six months or longer, depending on the workload at the FCC. If the application is approved, you will receive a collect telegram indicating grant of your construction permit. Then, equipment can be ordered and construction can begin. (Prior to application approval, any equipment orders placed to maintain price should be on a conditional basis, contingent upon the grant of your construction permit). When construction and installations are complete, an FCC form 341 is filed to obtain a license for the new facilities. Within about 10-days, the FCC will send a collect telegram granting "Program Test Authority." This telegram is the go-ahead to begin actual on-air programming. The license itself may take another month or two to arrive. Meanwhile, the telegram serves as your operating authority.

FILING DEADLINE — 1/1/80

If you intend to file for a power increase from 10-watt to 100-watts ERP or more, you must file with the FCC by January 1, 1980. Though there may be some ways of circumventing this deadline later, if you know you are going for a power increase, it is to your distinct advantage to file by this deadline. Note that the deadline applies only to the filing of your application. Actual on-air operation at the increased power may not come until many months later, but the filing deadline holds true regardless of processing delays. Also note that this is a different deadline than for those stations choosing to remain at 10-watts. The latter group, as mentioned before, have until their first license renewal in 1980 or thereafter to file one of the 10-watt alternatives.

MAKING A DECISION

In deciding whether or not to remain a 10-watt station, you must take into account many factors, including many of the points

previously mentioned. In addition, you should ask yourselves these questions:

1. Should we expand to cover a wider geographic area with our signal, or are we effectively reaching our intended audience with our present 10-watt power? Those in isolated areas may see no practical benefits to a power increase because the population concentration is already within their signal's range. Those with more widespread populations may want the extra reach that a power increase could provide.

2. Is there enough spectrum space [room on the dial] to accommodate a power increase? If enough room exists, the choice is yours. If no room exists, there's little choice but to remain at 10-watts and pursue the 4 alternatives described earlier.

3. Can we raise enough funds to cover the costs of a power increase? Costs can vary, as shown earlier. But, consider all your sources and potential sources for funding. The initial capital expenditure to go from 10-watts to 100-watts is not necessarily out of reach. Think about expanding your funding base beyond the traditional student activities fees or allocations. Solicit funds from your listeners. If you are truly serving them, they will respond. Think about marathons, donor solicitations, T-shirt promotions, and other local fund-raising devices. Get the community involved and active in supporting the project. If you feel you have no hope of raising the funds needed for a power increase, then you cannot consider that option. If you feel you have a chance at raising the funds, remember 1/1/80 is only a filing deadline for your application. You can show that at least part of the funds will be coming from listener donations and community support. Actual fund-raising can continue while the application is being processed, later on when construction has begun, and still later when you go on the air. Remember too that remaining at 10-watts may still require some expenditure of funds for engineering to make the required technical showing to the FCC and/or to change frequency, though the amount of these changes should be somewhat less than for a power increase.

4. Are we ready to assume the technical operator and licensee responsibilities that go with a station of 100-watts or more ERP? These responsibilities have already been listed. Consider whether you and your present staff as well as those in years to come are ready, willing, and able to take

on these burdens. The fact that many have already done so means it is certainly very possible that you can, too. On the other hand, you must recognize the limitations of your own situation and staff realistically.

5. What about future consideration? If you foresee expansion in years to come, it is better to try to upgrade to the 100-watt level now. If you remain at 10-watts, later expansion may be more difficult, though not necessarily impossible. If you do not plan to go any higher than 10-watts, finding a place on the relatively more stable commercial FM band may be your best option. It is also the first option to be pursued if available.

6. What about minimum broadcast schedules? Though minimum broadcast schedule requirements have been adopted for noncommercial FM stations under the same Docket 20735 involved in these technical changes, the minimum broadcast schedule should not be a factor in deciding whether or not to increase power. These new requirements are the same for noncommercial FM stations regardless of their power, so the same rules apply to 10-watt stations as to 100-watt stations. These new minimum broadcast schedule rules are the subject of a separate report from IBS.

COMPETITIVE SITUATIONS

Whether or not you decide to remain a 10-watt station or increase your power, it is to your distinct advantage to make your decision as soon as possible, and file the appropriate applications with the FCC. The earlier you file, the more flexibility you may find in available frequencies, and the less the possibilities of finding your station in a mutually exclusive or comparative hearing situation with another station.

Because of a particular scarcity of available frequencies in some areas, some stations will find themselves in direct competition with other 10-watt school, college, and university-based stations facing the same situation. In such cases, it may be wiser to sit down and talk with all concerned parties and try to work out

IBS

NOW MEET THE FCC 100 WATT RULE

BY ADDING THE

WILKINSON ELECTRONICS

FM-100 GA 125 WATT FM AMPLIFIER

TO YOUR 10 WATT TRANSMITTER



***ONLY
\$2995.00***

- Full 125 watts available to compensate for transmission line losses
- 25 units proven in unpressurized aircraft service at 20000 feet
- All transistorized • Self contained • Fits anywhere • Easy to maintain
- Meets or exceeds all FCC type acceptance specifications • Very efficient
- Includes full metering, Harmonic Filter and Directional Coupler

**WILKINSON
ELECTRONICS, INC.**

701 CHESTNUT ST. • P.O. BOX 738 • TRAINER, PA. 19013 • TELEPHONE (215) 497-5100
TWX 510-669-3188 CABLES: WILEC

practical compromises that assure the survival of all, if not with everyone getting everything they wanted. Efforts can be pooled in planning applications, hiring engineering consultants, and, for those stations pursuing a power increase, Ascertainment of Community Needs. Encouraging agreements before competitive applications reach the FCC will help avoid long and costly legal entanglements and hearings, and will preserve already limited funds for direct expenditures on station frequency changes and power increases instead of for legal fees. However, there are cases where legal and engineering counsel are both very necessary.

For example, a difficult situation may be faced by some present 10-watt stations who find a new high-powered station application filed for their frequency or one adjacent to it, by a CPB-funded group located nearby. If the 10-watt station is shifting frequency with or without a power increase, this new application may not affect it. However, if the 10-watt station was either foreclosed from the other alternatives and intended to remain on its present frequency, or intended to file for a power increase on its present frequency but hadn't yet done so, it could face some substantial problems.

If the existing 10-watt station's license has been issued or renewed since June, 1978 when Docket 20735 rules were adopted, the station is now already on a secondary status and is not entitled to any protection from interference.

However, if the 10-watt station's license has not been issued or renewed during that period, it may at least theoretically retain full protective status until its next renewal. This would mean the new application might not be immediately acceptable, because of the interference to the 10-watt station which would be caused, and/or the interference from the 10-watt station which would have to be accepted by the new applicant.

Should the 10-watt station choose to remain at 10-watts, it is downgraded to secondary status at its next license renewal, losing any protection from interference at that time. Of course, it may avoid interference in the required consideration of a change in frequency to the commercial FM band, or elsewhere in the noncommercial FM band.

If the 10-watt station decided to file for a power increase, it would be considered a major change, opening the door to competing applications. Should a competing application be filed, both would probably be considered on a mutually exclusive basis by the FCC. That means one or the other could be granted, but not both.

And, that could in turn lead to a comparative hearing where the FCC evaluates each of the applications, compares them, and decides on a grant to one of the applicants. Normally, we would expect a 10-watt station proposing 100-watts ERP to be at a severe disadvantage in such a hearing, going against a CPB-funded applicant who is seeking a station of

perhaps 3,000 watts or more. Not only would the larger applicant be able to propose more coverage and, (theoretically), more service, but their significantly larger financial resources would be used for highly professional Washington legal and engineering counsel to come up with persuasive technical arguments and programming presentations. They could propose programming service which looks especially good on paper. A typical weakness, however, has often been in the amount and content of local, live, news and public affairs programs and even locally-produced entertainment programs as contrasted with those furnished by national and regional networks and syndicators.

The possibility of being "counterfiled" exists any time a station files for a major change in facilities. And, certainly, a change from 10-watts to 100-watts or more is a major change. Here again, the quicker a power increase application is filed, the less time a competing applicant may have to prepare their own data and file against it.

IF YOU NEED HELP. . .

The decisions you face are probably among the most important for your station since it was established. While IBS remains in disagreement with many of the measures adopted, at this point it becomes more important to help stations understand what is required of them, and what their choices become.

With the constant turnover of personnel at college radio stations, new student management must be made familiar with the problems and choices, and school, college, and university administrators are being asked to make decisions on matters with which they are almost totally unfamiliar.

If yours is an IBS member-station, much of what is contained in this report is already familiar to you from previous mailings. It's important that you watch your mail for additional IBS materials and read them over carefully. **If you have any questions or need further help or assistance, get in touch with Jeff Tellis at IBS, Box 592, Vails Gate, New York 12584. Our phone is [914] 565-6710.**

If you want official assistance from the FCC staff, remembering the restrictions and limitations on the advice they can provide outside explanation of the rules themselves:

General Questions:

Mr. Jonathan David
Policy & Rules Div./Broadcast Bureau
FCC
1919 M Street, N.W.
Washington, D.C. 20054
(202) 632-7792

Engineering Questions:

Mr. John Boursy
Broadcast Facilities Div./
Broadcast Bureau
FCC
1919 M Street, N.W.
Washington, D.C. 20554
(202) 632-6908

JCR free classifieds

If you're an IBS member-station that wants to buy or sell equipment, or that's looking for other information from stations, here's a way to get the word out to other stations. There's no cost at all, but please keep your copy brief, and be sure to include a contact name, address, and phone number. Send your written copy, well in advance, to: Journal of College Radio, Box 592, Vails Gate, NY 12584.

OPERATIONS/TRAINING MANUALS WANTED

We're putting together our own operations/training manual and need ideas and suggestions from yours. Please send a copy of your station's operations/training manual or related materials to: Willie Brown, Gen. Mgr., WHCJ, Savannah State College, Savannah, GA 31404. (912) 356-2399.

JCR ARTICLES WANTED

For upcoming issues . . . on any topic of interest to school and college broadcasters. Send your drafts or completed articles to: Journal of College Radio, Box 592, Vails Gate, NY 12584.

GATES "GATESWAY" CONTROL BOARD, complete with manual. In operating condition, pots all good, needs cleaning up and some small parts. \$300 FOB.

LPB S - 1A DISTRIBUTION AMPLIFIER, excellent condition, with manual. \$200 FOB.

2 DOUBLE BAY PATCH PANELS (24 pairs of jacks on each). Excellent condition but removed from service by clipping wires and hence need cleaning up. \$25 each FOB.

Write, don't call. Ronald Pesha, General Manager, WGFR, Adirondack Community College, Bay Road, Glens Falls, NY 12801.



Get The Professional Disco Sound!

Three great reasons why a recent survey published by Billboard Magazine reveals that for the third year in a row Stanton has increased its share of the Disco phonograph cartridge market. The Stanton share has grown to an impressive 55.8%... a full 24 percentage points more than its nearest competitor.

The 500AL, known as the workhorse of the broadcast industry, meets the extremely rugged requirements of live application without sacrificing performance quality.

The 680EL is designed to deliver sound excellence and at the same time stand up to back cueing, vibrations and mishandling.

For home Disco, the 680SL is the perfect choice. It features the patented Stereohedron™ stylus tip assuring longer life for record collections.

From Disc cutting to Disco...to home entertainment...your choice should be the Choice of the Professionals...Stanton cartridges.

© 1979 STANTON MAGNETICS



STANTON #1 in DISCO

THE CHOICE OF THE PROFESSIONALS™

For further information contact: Stanton Magnetics Inc., Terminal Drive, Plainview, New York 11803



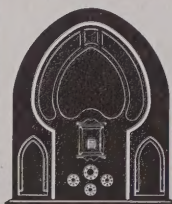
MAKE YOUR "TECHIE" HAPPY

If you work at a carrier current station, you may never even see your transmitters. But your chief engineer sees them - probably more often than he'd like to. And nobody likes to spend his time in a dormitory basement trying to fix old, broken down tube equipment.

The real problem is that even when the old transmitters are working, their audio quality is usually very poor, with high levels of static and hum.

Radio Systems manufactures a solid state, 20 watt transmitter that will make your carrier station sound good. And that should make everyone very happy.

contact us today for details.



Radio Systems Design
1400 Mill Creek Rd. • Gladwyne, PA 19035 (215) 649-3530

S

THE INTERCOLLEGIATE BROADCASTING SYSTEM
P.O. BOX 592
VALLS GATE, NEW YORK 12584

Wake Forest Univ. Library
P.O. Box 7777
Reynolds Station
Winston-Salem, NC 27109

Non-Profit Org.
U.S. POSTAGE
PAID
Permit No. 8
Newburgh, N.Y. 12550